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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,575	06/02/2000	Jennifer Pencis	1001-0130	6027

22120 7590 12/05/2003

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EXAMINER

HO, THANG H

ART UNIT PAPER NUMBER

2188

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/586,575

Applicant(s)

PENCIS ET AL.

Examiner

Thang H Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-11, 13-15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 4, 5, 12 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. This Office Action is in response to applicant's amendment dated 10/14/2003. The applicant's remarks and amendment were considered with the results that follow.
2. Claims 1-20 are pending in this application for examination.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghaffari et al. (USPN: 6,088,740) in view of Arimilli et al (USPN: 6,487,637), hereinafter Arimilli.

**As per claims 1 and 19**, Ghaffari teaches in figures 1 and 2 a computer system comprising a processor (121), an integrated circuit (270) receiving command information over a plurality of bit times comprising: a command queue (276) storing command information received into the integrated circuit (270) during consecutive bit times (e.g. column 5, lines 19-23 and column 11, lines 13 et seq.). Ghaffari also teaches the updating of a write pointer to repoint a write pointer to point to the previous command already stored in command queue allowing recovery of command to restart in event of an error (e.g. abstract, column 2, lines 37-44, and column 17 et seq.).

However, Ghaffari fails to teach the control logic responsive to a cancellation indication in the command information, indicating that the command is cancelled.

Arimilli teaches the control logic responsive to a cancellation indication in the command information, indicating that the command is cancelled to stop the execution of the speculative command and remove it from the queue, thereby speeding up the processing and improving system performance (e.g. Abstract, FIG. 5, column 4, lines 55-61 and column 5, lines 7-20).

Accordingly, it would have been prima facie obvious for one skilled in the art at the time the invention was made to implement the system and method as taught by Ghaffari and include a control logic to process the cancellation of command within the command queue as taught by Arimilli for the purpose stated above. Furthermore, the repointing of the write pointer to point to the command already stored in the command queue would allow for the reclamation of command blocks and eliminate the need for compacting the command queue to remove the canceled commands. Thus, providing a contiguous command queue and better system performance.

**As per claims 2, 13 and 14**, the combination of Ghaffari and Arimilli discloses that the command is speculative read operation (Arimilli, Abstract, FIG. 6, column 5, lines 7-20).

**As per claim 3**, Ghaffari discloses the integrated circuit as recited in claim 1 wherein the command queue includes a plurality of FIFO buffers, each of the FIFO

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buffers storing a segment of a received command and wherein a plurality of write pointers point to locations in respective FIFO buffers to store a next command segment, and wherein segments of a command in different FIFO buffers are received at different bit times (e.g. figure 9 and column 5, lines 19-33).

**As per claim 6**, Ghaffari discloses the integrated circuit as recited in claim 4 wherein each of the plurality of FIFOs has its respective write pointer decremented in consecutive clock intervals (e.g. column 11, lines 13 et seq.).

**As per claims 7, 8 and 20**, Ghaffari discloses a content counter indicating a number of commands stored in the command buffer (figure 9, element 916 and column 11, lines 13 et seq.) wherein the content counter is decremented as a result of the cancellation indication (figure 13, element 1342 and column 14, lines 20 et seq.).

**As per claims 9, 10, 11, 15, 17 and 18**, the claims encompass the same scope of invention as to that of claims 1, 3, 6, 6, 7 and 8, respectively, however the claims are drafted as method format rather than apparatus format, the claims are therefore rejected for the same reasons as being set forth above.

***Allowable Subject Matter***

5. Claims 4, 5, 12 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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*Response to Arguments*

6. Applicant's arguments filed 10/14/2003 with respect to Claims 1-20 are moot in view of the new ground(s) of rejection.

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***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See Form PTO-892.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to (703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA. Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thang H Ho whose telephone number is 703-305-1888. The examiner can normally be reached on Monday-Friday from 7:00 A.M. - 4:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 703-306-2903. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

Thang Ho  
Art Unit 2188  
December 1, 2003

**Kevin L. Ellis**  
**Primary Examiner**

